Work in brief

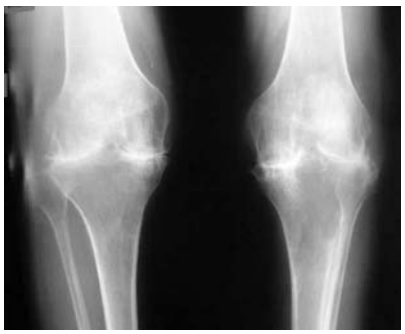
Keith Palmer, *Editor*

COST EFFECTIVE SURVEILLANCE

Although screening is widely advocated for workers at risk of occupational asthma, there are few data on the effectiveness and costs of surveillance. Direct evidence on benefits is costly and hard to collect. Wild *et al*[1] propose the alternative of model based mathematical simulation, taking as their example isocyanate induced asthma. They compare annual surveillance with passive case finding in terms of various outcomes—symptom-free days, quality adjusted life years (QALY), direct costs, productivity losses, and incremental cost effectiveness ratio (CER). Using input data from a variety of published sources, the authors estimate that 638 cases of disability may be prevented by the 10 year surveillance of 100 000 exposed workers, at an incremental cost of $24 000 per QALY with a CER that is ''within the acceptable range''. Their model proved sensitive to input assumptions, suggesting an element of uncertainty in the figures. Nonetheless, the approach offers a pragmatic way to assist policy decision makers who have to meet competing demands with limited funds. Further commentary is provided in an accompanying editorial.[2]

AIR SAMPLES VERSUS BIOMARKERS

Theoretically, biomarkers of chemical exposure should provide a better surrogate for assessing exposure-response relationships than airborne measurements. However, innate variability of both measures in populations often leads to an attenuation bias, with under-estimation of the logged exposure-disease relation. Lin *et al*[3] compare the two exposure assessment strategies. They point out that the bias should decrease with the within-to-between subject variance ratio, and assess the impact using over 12 000 repeated exposure observations from 127 occupational and environmental datasets. As anticipated, biomarkers had smaller variance ratios than airborne measures, especially in environmental settings. The authors comment that biomarkers typically provide a less biased surrogate for exposure.



OSTEOARTHRITIS AND OCCUPATION

To investigate the frequency of osteoarthritis by occupation, Rossignol *et al*[4] have conducted a national cross-sectional survey. The authors sampled cases of knee, hip, and hand osteoarthritis presenting to treating physicians throughout France during 2003, and compared the distribution of occupations with national patterns to obtain prevalence rate ratios (PR). Female cleaners (PR = 6.2), women in the clothing industry (5.0), male masons and construction workers (2.9), and agricultural workers (2.8) were over-represented among arthritic cases. Another feature in those with heavy manual jobs was early presentation, with 40% reporting symptoms before age 50 years. The findings may be influenced to a degree by differences in care seeking by occupation; but they provide a useful lead in directing future research. In particular, the early onset and severity of osteoarthritis in certain occupations is concerning and requires urgent evaluation.

LABORATORY ANIMAL ALLERGY

Only a few studies of laboratory animal allergy (LAA) have been longitudinal in design. In this issue, a further report is contributed by Elliott *et al*.[5] The researchers conducted a 12 year follow up of a dynamic cohort of pharmaceutical workers with exposure to various laboratory animals. Assessment was based on questionnaires and serology. The 12 year incidence of LAA symptoms was estimated at 2.3 per 100 person-years and that of serologically confirmed LAA at 1.3 per 100 person-years. Higher risks were found in those with more hours of exposure, especially to tasks involving relatively crowded animal cages. The authors propose that disease incidence might be reduced by curtailing exposure times.

1 **Wild DM**, Redlich CA, Paltiel AD. Surveillance for isocyanate asthma: a model based cost effectiveness analysis. *Occup Environ Med* 2005;**62**:743–9.
2 **LaMontagne AD**. Cost effectiveness of surveillance for isocyanate asthma: finding an occupational health policy framework. *Occup Environ Med* 2005;**62**:741–2.
3 **Lin YS**, Kupper LL, Rappaport SM. Air samples versus biomarkers for epidemiology. *Occup Environ Med* 2005;**62**:750–60.
4 **Rossignol M**, Leclerc A, Allaert FA, *et al*. Primary osteoarthritis of hip, knee, and hand in relation to occupational exposure. *Occup Environ Med* 2005;**62**:772–7.
5 **Elliott L**, Heederik D, Marshall S, *et al*. Incidence of allergy and allergy symptoms among workers exposed to laboratory animals. *Occup Environ Med* 2005;**62**:766–71.